

BRITISH COOPERATIVE CLINICAL GROUP* GONORRHOEA STUDY†

Early in 1955 the British Federation against the Venereal Diseases asked the British Cooperative Clinical Group to undertake a retrospective study of certain features relating to gonococcal infections in Great Britain, so that the results could be presented at the meeting of the International Union against the Venereal Diseases and Treponematoses which was held at Naples in September of the same year.

Such a study was considered important as there are considerable reservoirs of gonococcal infection still present in most countries of the world. While the prevalence of early syphilis in developed countries has dramatically fallen since World War II, the rate of fall in the numbers of new cases of gonorrhoea has been much less striking. The generally accepted reasons for this failure of control are the presence of undiagnosed gonorrhoea in the female and the short incubation period of the disease which permits new foci to arise by the time the original case has been brought to the clinic.

The British Cooperative Clinical Group therefore welcomed the opportunity of collecting data which might be helpful in leading to a better understanding of the control of the disease. It concentrated its attention on cases of gonorrhoea treated during 1954 in certain clinics of England and Wales and information was duly collected relating to some 7,157 new cases and 1,026 re-infections.

A broad survey is presented of the completed forms relating to cases of gonorrhoea treated during 1954. The clinics have been divided into four groups.

Group I : Ports.—(Liverpool, Seamen's Dispensary and Royal Infirmary; Manchester, St. Luke's Clinic and Royal Infirmary; Newcastle; Bristol; Grimsby; Swansea; Port Talbot; Barry; Cardiff, Royal Infirmary and Hamadryad; Newport (Mon.); and Southampton.)

Group II : Inland Industrial Cities.—(Leeds, Nottingham, Birmingham, Barnsley, Sheffield Royal Hospital and Royal Infirmary, Pontypridd.)

Group III : London.—(St. Bartholomew's, Endell Street, St. Mary's, Whitechapel Clinic.)

Group IV : Smaller, mainly Non-Industrial Towns and Rural Areas with little Gonorrhoea—for convenience termed "Quiet Areas".—(West of England clinics including Bath, Cheltenham, Gloucester, Trowbridge and Weston-super-Mare, Lincoln, Boston, Wrexham, and North Wales clinics.)

The numbers of cases returned in the four groups are shown in Table I.

TABLE I
GROUPING OF DATA

Group	Males	Females	Total
I.—Ports	2,926	446	3,372
II.—Industrial Inland Cities ..	962	199	1,161
III.—London	2,001	466	2,467
IV.—Quiet Areas	115	42	157
Total	6,004	1,153	7,157

Occupation.—The occupational groupings are given in Table II (overleaf).

It is found that itinerant occupations were followed by 33.9 per cent. of males as against only 0.5 per cent. of females.

The seamen proved the largest occupational group accounting for 21.3 per cent. of the male material.

Acknowledged prostitutes provided no less than 18.6 per cent. of the female material.

Country of Origin.—The countries of origin of the various patients are shown in Table III (overleaf).

It is calculated that, while the indigenous inhabitants of the United Kingdom accounted for 91.2 per cent. of the numbers of female cases, only 62.5 per cent. of the males belonged to the United Kingdom.

Likewise the incidence of Negroes differed widely

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† The British Cooperative Clinical Group forms, from which this summary was made, were made available to Dr. C. S. Nicol, who, on behalf of the British Federation against the Venereal Diseases, reported the findings to the meeting of the International Union against the Venereal Diseases and Treponematoses at Naples during September, 1955.

TABLE II
OCCUPATION

Sex	Occupation	Group				
		I. Ports	II. Inland Industrial Cities	III. London	IV. Quiet Areas	Total
Female	Commercial traveller	—	—	1	—	1
	Show business	1	—	4	—	5
	Professional	3	—	4	2	9
	Clerical	18	13	36	7	74
	Artisan	4	6	54	—	64
	Labourer	3	1	32	—	36
	Domestic	229	77	139	23	468
	Prostitute	89	8	114	4	215
	Other	61	19	68	3	151
	Unknown	38	75	14	3	130
	Total	446	199	466	42	1,153
Male	Seamen	1,093	19	162	4	1,278
	Commercial traveller	91	39	107	5	242
	Show business	17	6	55	1	79
	Tourist	9	2	4	—	15
	Military	32	21	52	3	108
	Other	99	71	103	13	286
	Unknown	22	2	2	3	29
	Total itinerant	1,363	160	485	29	2,037
	Professional	31	14	133	4	182
	Clerical	70	18	148	3	239
	Artisan	627	159	299	34	1,119
	Labourer	604	378	503	37	1,522
	Domestic	11	3	150	—	164
	Prostitute	—	—	—	—	—
	Other	169	177	272	6	624
	Unknown	51	53	11	2	117
	Total non-itinerant	1,563	802	1,516	86	3,967
	Total	2,926	962	2,001	115	6,004

in the two sexes : 14.6 per cent. of the males, and only 1.6 per cent. of the females.

Nature of Source of Infection.—The sex contacts of the 7,157 primary cases are considered in Table IV (opposite).

Differences between the sexes in the pattern of source of infection are noted. Of the 1,105 female cases in which the nature of the source of infection is stated, contact was with casual acquaintances (including prostitutional relationship) in only 26.3 per cent. Marital exposure accounted for 31.5 per cent. In the male, on the other hand, the disease was contracted from casual relationship in no less than 77.2 per cent. of the 5,302 cases in which the relationship was stated (in 35.7 per cent. it was prostitutional). Marital exposure accounted for only 4.0 per cent. and homosexual exposure for 2.5 per cent.

Precautions.—Information concerning precautions is incomplete, although from the available figures the pattern does not markedly differ in the two sexes (Table V, overleaf).

Of the 786 male patients concerning whom information is available, precautions were taken in

5.0 per cent., which figure compares with 7.2 per cent. for 208 female cases.

Alcohol.—Information concerning alcohol is similarly incomplete (Table VI, overleaf).

These figures show a difference between the sexes. Alcohol is recorded as having been taken in 76.7 per cent. of 2,254 male cases, as compared with only 24.8 per cent. of 286 female cases.

Marital Status.—The marital status is recorded in Table VII.

Of the 5,943 male patients concerning whom the marital status is known, 68.7 per cent. were single, whereas of 1,139 female cases, 48.5 per cent. were single.

Re-infections.—The number of patients re-infected with gonorrhoea during the same year as the original infection are stated in Table VIII, overleaf.

Such re-infections were thus reported from 10.4 per cent. of the male cases and from 7.3 per cent. of the female cases. The 84 females having more than one attack averaged 1.4 subsequent attacks each, while the 626 males having more than one attack averaged 1.5 subsequent attacks each.

TABLE III
RACE AND COUNTRY

Sex	Race	Country	Group				Total
			I. Ports	II. Inland Industrial Cities	III. London	IV. Quiet Areas	
Female	White	U.K.	438	181	392	40	1,051
		Eire	2	9	33	1	45
		Europe	3	7	13	1	24
		America	—	—	2	—	2
		Other	1	—	3	—	4
	Total White . .		444	197	443	42	1,126
	Negro	Africa	1	1	2	—	4
		W. Indies	—	1	13	—	14
		America	—	—	—	—	—
	Total Negro . .		1	2	15	—	18
	Others	Mediterranean . .	1	—	6	—	7
		Indian	—	—	1	—	1
		Asian	—	—	1	—	1
		S. American	—	—	—	—	—
		Unknown	—	—	—	—	—
	Total Other . .		1	—	8	—	9
	Total		446	199	466	42	1,153
Male	White	U.K.	1,993	606	1,068	85	3,752
		Eire	169	72	125	10	376
		Europe	277	64	152	9	502
		America	19	1	62	—	82
		Other	18	10	15	—	43
	Total White . .		2,476	753	1,422	104	4,755
	Negro	Africa	193	62	157	1	413
		W. Indies	131	94	216	8	449
		America	8	—	8	—	16
	Total Negro . .		332	156	381	9	878
	Others	Mediterranean . .	40	—	110	—	150
		Indian	33	48	68	2	151
		Asian	36	3	12	—	51
		S. American	6	—	4	—	10
		Unknown	3	2	4	—	9
	Total Other . .		118	53	198	2	371
	Total		2,926	962	2,001	115	6,004

TABLE IV
SEX CONTACT

Sex	Source of Infection	Group				Total
		I. Ports	II. Inland Industrial Cities	III. London	IV. Quiet Areas	
Female	Prostitute	1	1	—	—	2
	Casual acquaintance	148	39	90	12	289
	Friend	127	78	248	13	466
	Marital	136	78	123	11	348
	Homosexual	—	—	—	—	—
	Other	21	—	3	—	24
	Unknown	13	3	2	6	24
	Total	446	199	466	42	1,153
Male	Prostitute	1,332	69	462	30	1,893
	Casual acquaintance	960	325	877	39	2,201
	Friend	332	107	412	17	868
	Marital	122	35	47	6	210
	Homosexual	11	2	117	—	130
	Other	1	25	—	—	26
	Unknown	168	399	86	23	676
	Total	2,926	962	2,001	115	6,004

TABLE V
PRECAUTIONS : FIRST ATTACK

Sex	Precautions				Group			
					I. Ports	II. Inland Industrial Cities	III. London	IV. Quiet Areas
Female	Taken				—	—	15	—
	Not taken				26	18	126	23
	No record				420	181	325	19
	Total				446	199	466	42
Male	Taken				9	—	28	2
	Not taken				154	75	465	53
	No record				2,763	887	1,508	60
	Total				2,926	962	2,001	115

TABLE VI
ALCOHOL

Sex	Alcohol				Group			
					I. Ports	II. Inland Industrial Cities	III. London	IV. Quiet Areas
Female	Taken				60	1	4	6
	Not taken				136	24	22	33
	No record				250	174	440	3
	Total				446	199	466	42
Male	Taken				1,340	126	201	62
	Not taken				327	49	130	19
	No record				1,259	787	1,670	34
	Total				2,926	962	2,001	115

TABLE VII
MARITAL STATUS

Sex	Marital Status				Group			
					I. Ports	II. Inland Industrial Cities	III. London	IV. Quiet Areas
Female	Married				160	94	153	20
	Single				198	82	254	18
	Widow				4	5	7	2
	Divorced				26	3	10	1
	Separated				45	15	42	—
	Unknown				13	—	—	1
	Total				446	199	466	42
Male	Married				708	285	463	45
	Single				1,995	561	1,461	66
	Widower				28	7	7	—
	Divorced				62	9	5	1
	Separated				77	95	65	3
	Unknown				56	5	—	—
	Total				2,926	962	2,001	115

TABLE VIII
RE-INFECTIONS WITH GONORRHOEA DURING SAME YEAR

Sex	Re-infections				Group			
					I. Ports	II. Inland Industrial Cities	III. London	IV. Quiet Areas
Female	Cases				22	8	54	—
	Attacks				27	14	76	—
Male	Cases				244	75	305	2
	Attacks				330	108	469	2

TABLE IX
SOURCE OF RE-INFECTION

Sex	Source of Re-infection	Group				
		I. Ports	II. Inland Industrial Cities	III. London	IV. Quiet Areas	Total
Female	Prostitute	1	—	—	—	1
	Casual	10	7	23	—	40
	Friend	4	5	23	—	32
	Marital	6	1	24	—	31
	Homosexual	—	—	—	—	—
	Other	6	—	1	—	7
	Unknown	—	1	5	—	6
	Total	27	14	76	—	117
Male	Prostitute	61	6	67	—	134
	Casual	103	24	165	—	292
	Friend	69	21	95	—	185
	Marital	34	13	24	1	72
	Homosexual	1	—	22	—	23
	Other	—	9	6	—	15
	Unknown	62	35	90	1	188
	Total	330	108	469	2	909

The source of the re-infection is shown in Table IX.

Of the 104 female cases in which the source of the re-infection is stated, contact was with casual acquaintances (including prostitutional relationship) in 39.4 per cent. (as compared with 26.3 per cent. in the original infection). Marital exposure accounted for 29.8 per cent. (31.5 per cent. in original exposure).

In the male the disease was contracted from casual relationship in 60.3 per cent. of the 706 cases in which the relationship was stated. Marital exposure accounted for 10.2 per cent. (4.0 per cent. in the original infection) and homosexual exposure for 3.3 per cent. (2.5 per cent. in original infection, see Table IV).

Thus, re-infection in females tended to result from casual acquaintances more often than did the original infection. Re-infection in males resulted from casual relationships less frequently than the original infection, and re-infection doubtless arose in many instances from a return to the same sexual environment.

Information concerning the use of alcohol and precautions in the re-infections is shown in Table X.

Of 281 male patients with re-infection concerning whom information is known, precautions were taken in 3.2 per cent. (as compared with 5.0 per cent. in the original infection, see Table V). Of the statistically insignificant number of 34 female patients concerning whom information is known,

TABLE X
ALCOHOL AND PRECAUTIONS IN RE-INFECTIONS

Sex	Alcohol and Precautions in Re-infections	Group				
		I. Ports	II. Inland Industrial Cities	III. London	IV. Quiet Areas	Total
Female	Alcohol	(Taken	13	—	8	21
		Not taken .. .	5	7	—	13
		Not known .. .	9	61	—	83
	Total	27	14	76	—	117
	Precautions	(Taken	—	6	—	6
		Not taken .. .	5	22	—	28
		Unknown	22	48	—	83
	Total	27	14	76	—	117
Male	Alcohol	(Taken	60	7	30	97
		Not taken .. .	36	6	—	66
		Not known .. .	234	95	2	746
	Total	330	108	469	2	909
	Precautions	(Taken	—	9	—	9
		Not taken .. .	66	187	2	272
		Unknown	264	273	—	628
	Total	330	108	469	2	909

precautions were taken in 17.6 per cent. (7.2 per cent. in the original infection).

Of the 163 male patients with re-infection concerning whom information is known, alcohol was taken in 59.5 per cent. (76.7 per cent. in original infection, see Table VI). Of the statistically insignificant number of 34 female cases concerning whom information is known, alcohol was taken in 61.8 per cent. (24.8 per cent. in the original infection).

The figures are such that reliable conclusions cannot be drawn from Table X.

Summary and Conclusions

(1) A summary has been prepared of the British Cooperative Clinical Group forms relating to 7,157 cases of gonorrhoea treated in certain clinics of England and Wales during 1954.

(2) The 6,004 male and 1,153 female cases have been arranged in four groups according to source: (i) Ports, (ii) Inland industrial cities, (iii) London, and (iv) Mainly non-industrial town and rural areas with little gonorrhoea.

(3) The data have been considered by sex as regards occupation, race, and country of patient, nature of source of infection, precautions taken, alcohol, marital status, and re-infection.

(4) Known itinerant occupations were followed by 39.9 per cent. of males, against only 0.5 per cent. of females. Known seamen accounted for no less than 21.3 per cent. of the entire male material and acknowledged prostitutes for 18.6 per cent. of the entire female material.

(5) The indigenous population of the United Kingdom accounted for 91.2 per cent. of the total numbers of female cases, while only 62.5 per cent. of the male cases belonged to the United Kingdom. The incidence of Negroes differed widely, being

14.6 per cent. of males and only 1.6 per cent. of females.

(6) Casual relationship was responsible for 77.2 per cent. of the male cases concerning which information is available, as compared with only 26.3 per cent. of the female cases. Marital exposure accounted for 31.5 per cent. of the female cases but only for 4.0 per cent. of the male cases. Homosexual exposure provided only 2.5 per cent. of the male cases.

(7) Information concerning precautions is known only for 786 male and 208 female cases. Precautions were used in 5.0 and 7.2 per cent. in the two sexes respectively.

(8) Information regarding alcohol is recorded in 2,254 male and 286 female cases. Alcohol was used in 76.7 per cent. of the male cases but in only 24.8 per cent. of the female cases.

(9) The known marital status was single in 68.7 per cent. of males and in 48.5 per cent. of females.

(10) Re-infections during the same year were noted in 10.4 per cent. of male patients (average 1.5 attacks) and in 7.3 per cent. (average 1.4 attacks) of female patients.

(11) The source of the re-infection in females resulted more often from casual exposure than did the original infection, while in males—doubtless due to a return to the same sexual environment—the reverse was the case.

(12) Information concerning alcohol and precautions in re-infection is insufficient for reliable conclusions to be drawn.

The data from which this Report has been prepared were obtained by the British Cooperative Clinical Group from the directors of the clinics listed.